



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,011	10/24/2003	Alex C. Toy	1023-286US01	9361
28863	7590	09/01/2006	EXAMINER	
SHUMAKER & SIEFFERT, P. A.			HOLMES, REX R	
8425 SEASONS PARKWAY			ART UNIT	
SUITE 105			PAPER NUMBER	
ST. PAUL, MN 55125			3762	

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/693,011	Applicant(s) TOY ET AL.	
	Examiner Rex Holmes	Art Unit 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) .
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/11/2006 have been fully considered but they are not persuasive. Applicant initially argues that applied references fail to suggest the invention and provide no teaching that would suggest the desirability of modification to arrive at the claimed invention.
2. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner submits that the applicant is viewing the references too narrowly. Nelson teaches a remote therapy interface system. Stanton teaches a handheld programmer for a stimulator. Both Stanton and Nelson teach a remote access programmer. Teshome teaches an apparatus for reducing EMI in a multi-layer circuit board. Both Stanton and Nelson are comprised of circuit boards and due to their intended use would need to limit the EMI output, as such it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Nelson with Stanton and Teshome to create a compact remote programmer with a low EMI output that would not interfere with the surrounding electrical equipment.

Art Unit: 3762

3. Applicant then argues that the references fail to teach or suggest a programmer including a substantially contiguous ground plane layer that is interrupted by a plurality of gaps. The applicant further argues that the interconnect 52 is separated from the plane by an insulated layer thus not making a contiguous connection. In the embodiment pointed out by the Applicant it is true that there is an insulated layer.

Column 8, Lines 66-67 clearly state that the interconnect may be included on any layer of the multilayer printed circuit board. Thus the interconnect in another embodiment is attached to the two ground plates 42 and 40 making them a single board thus connecting them and making them substantially contiguous with gaps separating them as shown in figure 3, elements 48 and 54.

4. Applicant then argues that Nelson in view of Teshome and Stanton fails to teach or suggest a programmer that includes an internal antenna mounted on a first circuit board and a display device mounted on a second circuit board. The display screen on a graphics circuit (column 12, lines 15-18) taught by Nelson et al. is interpreted to be mounted on the circuit board since it states that the display screen is coupled to the display circuit, which is commonly understood to mean that it is electrically connected and mounted to the display circuit.

5. In the alternative that the graphics circuit on which the display is mounted is not a second circuit board, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the graphics circuit a second circuit board, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlienman*, 168 USPQ 177, 179.

6. Applicant then argues that combination of references fail, as they are not sufficient enough to overcome the deficiencies of Teshome, which the Applicant states fails to disclose a substantially contiguous layer. As shown above Teshome discloses a substantially contiguous ground layer.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1 – 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al (6418346) in view of Teshome (6219255) and Stanton et al. (6249703). Nelson discloses a programmer for an implanted medical device with a telemetry antenna on an antenna driver circuit board (column 11, lines 52-55) and a display screen on a graphics circuit (column 12, lines 15-18) but does not disclose that the

Art Unit: 3762

antenna is an internal antenna, nor a substantially contiguous ground plane layer interrupted by a plurality of outwardly extending gaps to disrupt the flow of eddy currents, nor that the ground plane regions defined by these gaps are interconnected. Stanton et al teach an implantable tissue stimulator programmer with an internal antenna (col. 7, lines 1-6). Teshome teaches a circuit board (figure 3A, element 46) that includes a conductive layer, which can be used as a ground plane layer if the conductive layer is grounded, is separated into interconnected (column 3, line 67 – column 4, line 4)) segments (column 3, lines 64-67) by outwardly extending gaps (Figure 3, elements 48 and 54) to reduce electromagnetic interference (column 18, lines 16-33) which implicitly reduces the number of and therefore disrupts eddy currents within the ground plane layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nelson et al by including:

- (1) An internal antenna mounted on the first circuit board in order to make the device smaller in order to more easily carry the mobile device,
- (2) A conductive layer used as a ground plane layer in order to provide a place for an electrical ground connection in order to prevent short-circuiting of the device,
- (3) outwardly extending gaps in the ground plane layer in order to reduce the electromagnetic interference and therefore disrupt

Art Unit: 3762

eddy currents in the ground plane layer of the circuit board in order to reduce electrical interference,

(4) an interconnection in order to assure that the entire layer is grounded in order to more easily ground all required circuitry in order to prevent short-circuiting the device.

10. The display screen on a graphics circuit (column 12, lines 15-18) taught by Nelson et al. is interpreted to be mounted on the circuit board since it states that the display screen is coupled to the display circuit, which is commonly understood to mean that it is electrically connected and mounted to the display circuit.

11. In the alternative that the graphics circuit on which the display is mounted is not a second circuit board, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the graphics circuit a second circuit board, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlienman*, 168 USPQ 177, 179.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al (6418346) in view of Teshome (6219255) and Stanton et al. (6249703) as applied to claim1 above, and further in view of Conley et al (6418340). Nelson et al and Teshome disclose the invention substantially as claimed but do not disclose the antenna being of a loop-like shape that defines an aperture. Conley et al teach a programmer with a loop-antenna shape (column 4, lines 40 – 48), which inherently defines an aperture. It would have been obvious to one of ordinary skill in the art at the time the invention was

Art Unit: 3762

made to modify the invention of Nelson et al and Teshome by including the antenna as a loop-like shape in order to reduce the noise detected by the antenna.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1 – 4, and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/693015 in view of Teshome (6219255). Teshome (6219255) discloses a circuit board (figure 3A, element 46) that includes a conductive layer, which can be used as a ground plane layer when the conductive layer is grounded, separated into interconnected (column 3, line 67 – column 4, line 4)) segments (column 3, lines 64-67) by outwardly extending gaps (Figure 3, elements 48 and 54) to reduce electromagnetic interference (column 18, lines 16-33) which implicitly reduces the number of and therefore disrupts eddy currents within the ground plane layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nelson et al by including: firstly, a

Art Unit: 3762

conductive layer used as a ground plane layer in order to provide a place for an electrical ground connection, secondly, outwardly extending gaps in the ground plane layer in order to reduce the electromagnetic interference and therefore disrupt eddy currents in the ground plane layer of the circuit board, and thirdly an interconnection in order to assure that the entire layer is grounded. Claim 9 is rejected on the grounds stated above and further on the fact that it is obvious to combine the feature recited in claim 17 of application 10/693015 with the teachings of claim 1 in the same and in view of the teachings of Teshome (6219255).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1, 9 and 10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 8, 9, 22, 26, 34 and 35 of copending Application No. 10/693,835. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications claim a medical device programmer with a telemetry unit mounted on one separate circuit board and a display mounted on another and both include structure for mounting batteries within an aperture formed within the antenna.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

16. Claims 5 – 8 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rex Holmes whose telephone number is 571-272-8827. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rex Holmes



George Evanisko

Primary Examiner

8/31/16